Multiple genes reported to be linked to musical aptitude are identified this week in *Molecular Psychiatry*. The function of the genes implicated in the study ranges from inner ear development to auditory neurocognitive processes, suggesting that musical aptitude is affected by a combination of genes involved in the auditory pathway.

The perception of music starts with specialized hair cells in the inner ear, which transmit sounds as electronic signals through the auditory pathway to the auditory cortex, where sounds are primarily
recognized. In addition to simple sensory perception, the processing of music has been shown to affect multiple other regions of the brain that play a role in emotion, learning, and memory.

Irma Jarvela and colleagues analysed the genomes of 767 people, characterized by the ability to discriminate pitch, duration, and sound patterns. The best-linked and associated regions of the genome were largely on chromosome 4, and are mostly genes associated with the auditory pathway. The functions of the genes identified are thought include: the development of organs in the auditory pathway, the ability of hair cells in the inner ear to convert sound to brain signals, and the emotional interpretation of musical sounds in a brain region called the amygdala.

The authors note that musical aptitude is a complex behavioural trait not fully captured by the sound perception tests used in this study, and environmental factors, such as culture and music education, likely play an important role.

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